

**Notice of Allowability**

Application No.

10/766,145

Examiner

Mohammed Hasan

Applicant(s)

MORIKAWA ET AL.

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/14/2005.
2. ☒ The allowed claim(s) is/are 1 - 5, 7, 8, and 11 - 15.
3. ☒ The drawings filed on 27 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 3/14/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800  
Paper No./Mail Date 4

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 3/14/2005 has been entered.

### ***Information Disclosure Statement***

2. The prior art documents submitted by applicant in the Information Disclosure Statement filed on 3/14/2005 have all been considered and made of record (note the attached copy of form PTO – 1449).

### ***Allowable Subject Matter***

3. Claims 1 – 5, 7, 8, and 11 – 15 are allowed.

4. The following is an examiner's statement of reasons for allowance: The prior art taken either singularly or in a combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 1, 7, 8, 9, and 11, for example which include an image display apparatus having a pixel activation mechanism scanning the UV light onto the pixels in response to demand image and the mechanism including at least one grating light valve controllable by a processor to establish the demand image (claim 1); and plural GLVs controllable by a processor to establish a demand image (claim 7); and at least one beamsplitter receiving UV light from the source and directing respective UV beams to the pixel activation mechanism (claim 8); and at least one mask having plural excitation apertures defining respective pitches and the mask being interposed between the pixel activation mechanism and the display, the pitches between the excitation light apertures being established based on the locations of the respective excitation light apertures relative to the display (claim 11).

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammed Hasan whose telephone number is (571) 272-2331. The examiner can normally be reached on M-TH, 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272- 2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MH  
May 11, 2005

  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800

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1. (currently amended) An image display apparatus, comprising:  
an emissive display having plural pixels;  
at least one source of ultraviolet (UV) light; and  
a pixel activation mechanism scanning the UV light onto the pixels in response to a demanded image, the mechanism including at least one grating light valve controllable by a processor to establish the demanded image.
2. (original) The apparatus of Claim 1, wherein the display is a large screen display.
3. (original) The apparatus of Claim 1, wherein the display is a phosphor display.
4. (original) The apparatus of Claim 3, wherein the phosphor display operates at atmospheric pressure.
5. (original) The apparatus of Claim 1, wherein the display is a liquid crystal display.
6. (canceled).
7. (currently amended) ~~The apparatus of Claim 1, comprising~~ An image display apparatus, comprising:  
an emissive display having plural pixels;

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at least one laser source of ultraviolet (UV) light; and

plural GLVs controllable by a processor to establish [the]a demanded image.

8. (currently amended) ~~The apparatus of Claim 7, comprising~~ An image display apparatus,  
comprising:

an emissive display having plural pixels;

at least one source of ultraviolet (UV) light;

a pixel activation mechanism scanning the UV light onto the pixels in response to a demanded  
image; and

at least one beamsplitter receiving UV light from the source and directing respective UV  
beams to the GLVs pixel activation mechanism.

9. (currently amended) ~~The apparatus of Claim 7, comprising~~ An image display apparatus,  
comprising:

an emissive display having plural pixels;

at least one source of ultraviolet (UV) light;

a pixel activation mechanism scanning the UV light onto the pixels in response to a demanded  
image; and

plural scanning mirrors, ~~each mirror being associated with the pixel activation mechanism,~~  
~~a respective GLV,~~ each mirror being oscillated about a respective axis.

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10. (currently amended) The apparatus of Claim 9, wherein the pixel activation mechanism comprises three and only three GLVs, a first GLV being controlled to direct UV light onto only blue subpixels of the display, a second GLV being controlled to direct UV light onto only red subpixels of the display, and a third GLV being controlled to direct UV light onto only green subpixels of the display.

11. (currently amended) ~~The apparatus of Claim 7, further comprising~~ An image display apparatus, comprising:

an emissive display having plural pixels;

at least one source of ultraviolet (UV) light;

a pixel activation mechanism scanning the UV light onto the pixels in response to a demanded image; and

at least one mask having plural excitation light apertures defining respective pitches, the mask being interposed between the GLVs pixel activation mechanism and the display, the pitches between the excitation light apertures being established based on the locations of the respective excitation light apertures relative to the display.

12. (original) The apparatus of Claim 1, wherein the source is a laser.

13. (original) The apparatus of Claim 1, wherein the display includes at least one substrate, plural pixels being established on the substrate, each pixel being established by respective red, green, and blue subpixels, at least one light refracting layer covering the pixels and opposed to the substrate.

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14. (original) The apparatus of Claim 13, wherein the pixel activation mechanism directs first, second, and third UV beams against the refracting layer at respective first, second, and third angles, whereby the first, second, and third beams are refracted by the refracting layer only onto respective red, green, and blue subpixels.

15. (original) The apparatus of Claim 14, further comprising a color selection mask layer juxtaposed with the refracting layer for shielding the blue and green subpixels from the first beam, shielding the red and green subpixels from the second beam, and shielding the red and blue subpixels from the third beam.

16-38 (canceled).

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